

REMARKS

Claim 1 was rejected under 35 USC 112, first paragraph. Applicant respectfully traverses. The word “adapted” in a phrase “adapted to do M” implies that the intended consequence of the unit’s design is M; not necessarily that this is what happens in an actual constructed unit. When so interpreted, claim 1 specifies precisely what the specification describes. However, there is admittedly nothing explicit in the claim which points out that although ideally there would be no output signal out of a specified input port of the wavelength add mechanism, in practice some “errant” signal would flow out. Claim 1 is amended herein that avoids use of the word “adapted” and explicitly recites this outflow, thereby overcoming the rejection.

Claims 1-5 were rejected under 35 USC 103 as being unpatentable over Takahashi et al, US Patent Application Publication 2001/0030786 in view of Liu et al, US Patent Application publication 2003/007209. cants respectfully traverses.

In connection with the Takahashi et al reference, applicant argued in the previous Office Action response that Takahashi et al describe an arrangement “where the device that is connected to the second port of the circulator is a reflector, and it is precisely the intentionally reflected, desired, signal that is being measured” (emphasis in original). In the Response to Arguments section of the present Office Action the Examiner found the argument not persuasive –not because ‘cants statement was incorrect but, rather, because the Examiner perceived claim 1 does not comport with the requirements of 35 USC 112, first paragraph. If the Examiner had interpreted claim 1 as applicant has intended it to be understood, it appears that applicant’s above-quoted argument would have been dispositive in favor of patentability.

Amended claim 1 now clearly specifies that substantially all of the signal that flows into the input Y of the optical add mechanism flows out of output Z of the optical add mechanism, and that only an errant signal portion of the signal applied to the input Y flows out of input X of the optical add mechanism. As indicated above, amended claim 1 clearly overcomes the rejection under 35 USC 112, first paragraph.

Turning more particularly to the 35 USC 103 rejection of claim 1, the Examiner asserts a correspondence between applicant’s optical add mechanism and the combination

of the reflector and circulator of Takahashi et al (elements 15 and 12), but this combination has 4 ports in contrast to the 3 ports of applicant's optical add mechanism (X, Y, and Z):

1. An input port that is connected to circulator 11 and which the Examiner corresponds to the circulator of applicant's claim 1,
2. "Add" port 26a,
3. Output port 14a, and
4. A control port that is driven by element 29.

With this 4-port arrangement, applicant points out that there is no teaching of a portion of the signal entering port 26a flowing out of the input port of reflector 15 that is connected to circulator 11, as amended claim 1 specifies. Further, the feedback that is developed through port 27a, splitters 27s and 28b and circuit 29 is designed to provide a control signal that is responsive to the signal that is intentionally reflected within reflector 15, and not designed to provide a control signal that is responsive to the errant portion of the input signal to the add port of the optical add mechanism. Still further, the interconnection of the elements in claim 1 utilizes only the three ports of the optical add mechanism whereas the interconnection of elements in Takahashi et al employs 4 ports of its "optical add mechanism." Aside from the fact that the interconnection of element is, consequently, quite different, it is clearly not one that allows "said fraction of said optical power flowing to said first input port of said wavelength add mechanism to influence the signal is applied to said second input port of said wavelength add mechanism." Thus, it is respectfully submitted that there are three different reasons to hold that the Takahashi et al system is patentably different from the system of claim 1.

In connection with the added citation of the Liu et al reference, the Examiner states that

Takahashi et al disclose that the optical monitor mechanism is coupled to the third port of the optical circulator and disclose that the monitor is also coupled to a tunable device of the add mechanism (i.e., grating 15) thereby providing a feedback path. They do not specifically disclose providing a feedback path to a tunable device.

However, Liu et al teach an add multiplexer (Figure 6) related to the one disclosed by Takahashi et al and further teach using a tunable optical source 44 for adding optical signals (page 3, paragraphs [0040] and [0041]). It would have been obvious to a person of ordinary skill in the art to use tunable lasers as taught by Liu et al as the tunable

optical devices in the system disclosed by Takahashi et al as a way to allow the system to add signals with different wavelengths as desired at various times.

First, applicant notes that the Liu et al reference does not address the differences between the Takahashi et al reference discussed above and, therefore, the combination of Takahashi et al and Liu et al, even if it were to make sense, would not lead to an arrangement as defined in claim 1. Second, applicant respectfully disagrees with the Examiner's above-quoted conclusions. The Liu et al reference simply teaches the notion of the signal being applied to the add port of a tunable add filter from a tunable laser. The signal of the tunable laser is simply outputted by the tunable add filter. It does not control the tuning of the filter, *and it does certainly does not control the signal dropped in drop filter 48*. In contradistinction, in order to drop a wavelength in the Takahashi et al system one must provide a proper control signal to the reflector, and such a signal is not one that corresponds to the output signal of a tunable laser. There is simply no way that a tunable laser can be used in the feedback path (of elements 11, 8, 27b, 28a, 18b, 20 and 29) of Takahashi et al system. Consequently, the teachings of Liu et al cannot be combined with the teachings of Takahashi et al, as asserted by the Examiner.

Moreover, the Examiner did not even address the fact that the feedback path of Takahashi et al is to a control port of the reflector and not to the "add" port, as specified in applicant's claim 1.

Thus, it is respectfully submitted that, in addition to the fact that the Liu et al reference does not address the differences between the Takahashi et al reference discussed above, on two separate counts the addition of the Liu et al reference teachings does not advance the Takahashi et al system in the direction of applicant's claim 1. Therefore, it is respectfully submitted that claim 1 is not obvious in view of the Takahashi et al combination of references, and neither are the outstanding dependent claims 2, 3, 4, and 7.

In the Office Action Summary it is indicated that claim 7 is objected to. In the detailed action, however, claim 7 is indicated as being rejected under 35 USC 103 as being unpatentable over Takahashi et al in view of Liu et al and further in view of Miyakawa et al, U.S. patent 5,926,300. Applicant assumes that claim 1 is rejected rather than objected to, but respectfully traverse the rejection.

It is not disputed that Miyakawa et al describe an optical drop system, but the Examiner admitted that the Takahashi et al system already has a drop port, albeit not arranged as specified by applicant's claim. Hence, there is absolutely no motivation to create a system that includes the Takahashi et al arrangement (which drops a wavelength) that is preceded by a wavelength-dropping element (*a la* Miyakawa et al) because that wavelength-dropping element would be simply superfluous. It is respectfully submitted that no skilled artisan would consider combining the Miyakawa et al teachings to modify the Takahashi et al system.

Moreover, the Miyakawa et al teachings do nothing to suggest a modification of the Takahashi et al system so as to overcome the differences between the combination of Takahashi et al system and Liu et al -- even if that combination were reasonable, which as indicated above it is not -- and claim 1. Therefore, it is respectfully submitted that claim 7 is clearly not obvious in view of Takahashi et al, Liu et al, and Miyakawa et al, taken singly or in combination.

In light of the above amendments and remarks cants respectfully submits that all of the rejections have been overcome. Reconsideration and allowance of the outstanding claims are respectfully solicited.

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